

DEPARTMENT OF PLANNING
STAFF REPORT

PLANNING COMMISSION PUBLIC HEARING

DATE OF HEARING: December 17, 2009

ZMAP 2009-0005, SPEX 2009-0009 and CMPT 2009-0001

Green Energy Partners/Stonewall (GEP/S) Hybrid Energy Park

DECISION DEADLINE: April 3, 2010

ELECTION DISTRICT: Catoctin

PROJECT PLANNER: Judi Birkitt

EXECUTIVE SUMMARY

Green Energy Partners and Stonewall LLC of Hamilton, Virginia have submitted an application to rezone four parcels and a portion of a fifth, totaling approximately 90.5 acres, from the TR-10 (Transitional Residential - 10) and JMLA-20 (Joint Land Management Area - 20) zoning districts to the MR-HI (Mineral Resource - Heavy Industry) zoning district in order to develop a utility generating plant and transmission facility. The Applicant has also submitted applications for a Special Exception and a Commission Permit to allow a utility generating plant and transmission facility. These applications are subject to the Revised 1993 Zoning Ordinance.

The subject property is located northeast of the Dulles Greenway (Route 267), east of Sycolin Road (Route 643), south of Cochran Mill Road (Route 653), and west of Gant Lane (Route 652). The property falls within the AI (Airport Impact) Overlay District, outside of but within one (1) mile of the Ldn 60 aircraft noise contour, partially within the FOD (Floodplain Overlay District), and entirely within the QN (Quarry Notification) Overlay District-Luck Quarry Notification Area. The area is governed by the policies of the Revised General Plan (Transition Policy Area (Lower Sycolin Community)) and Leesburg Joint Land Management Area (JLMA)), the Revised Countywide Transportation Plan, and the Toll Road Plan, which designate this area for residential uses at a base density of 1 dwelling per 10 acres in a clustered pattern, with the option to rezone to a density of 1 dwelling per 3 acres in a Rural Village, or non-residential uses at an FAR of 0.50 that provide a transition from the suburban and rural policy areas.

RECOMMENDATION

The use is not currently consistent with the Energy and Communication Facilities policies of the Revised General Plan, which state that electric generation facilities that use clean burning and environmentally sound and proven fuel sources for power generation can be located only where their impact on the surrounding land uses and the environment is compatible. Given the presence of the natural gas and electrical transmission lines and the proximity to Luck Stone Quarry, the Leesburg Executive Airport, the City of Fairfax Water Plant, and proposed Loudoun Water treatment plant, the proposed use may be reasonable if the application

mitigates its impacts upon the environmental and the surrounding land uses and if the project includes adequate open space to provide a visual and spatial transition between the suburban and rural areas. Upon resolution of these outstanding issues, Staff could support the application. Staff recommends the application be referred to a work session for discussion.

SUGGESTED MOTIONS

1. I move that the Planning Commission forward ZMAP 2009-0005, SPEX 2009-0009, and CMPT 2009-0001, GEP/S Hybrid Energy Park, to a work session for further discussion.

OR,

2. a. I move that the Planning Commission forward ZMAP 2009-0005 and SPEX 2009-0009, GEP/S Hybrid Energy Park, to the Board of Supervisors with a recommendation of approval subject to the Proffer Statement dated November 20, 2009 and the Conditions of Approval dated December 4, 2009 and based on the following Findings:

AND

- b. I move that the Planning Commission approve CMPT 2009-0001, GEP/S Hybrid Energy Park and forward it to the Board of Supervisors for ratification.

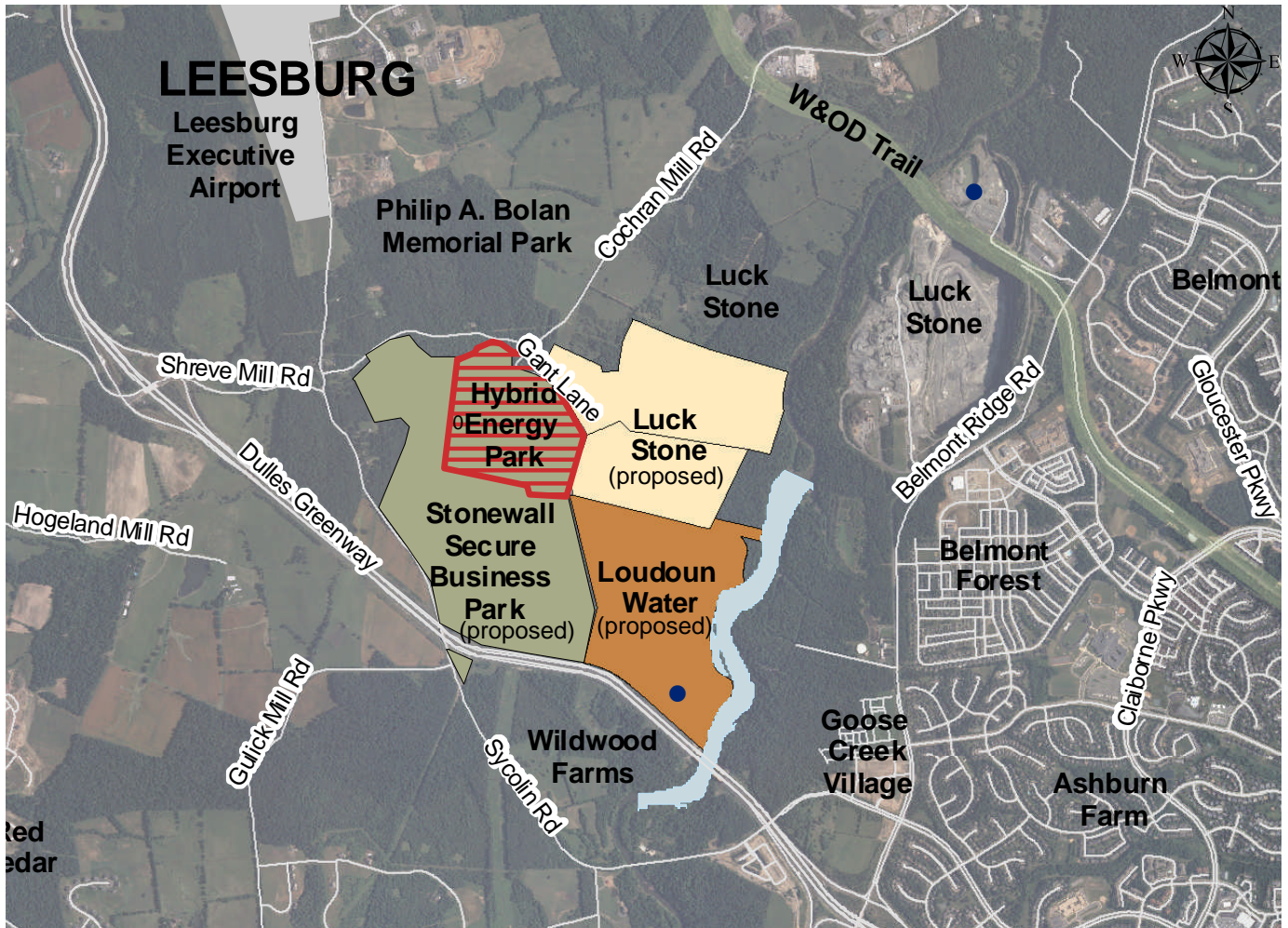
OR,

3. a. I move that the Planning Commission forward ZMAP 2009-0005 and SPEX 2009-0009, GEP/S Hybrid Energy Park, to the Board of Supervisors with a recommendation of denial.

AND

- b. I move that the Planning Commission deny CMPT 2009-0001, GEP/S Hybrid Energy Park based on the following Findings:

VICINITY MAP



Directions: From Leesburg, take Sycolin Road (Route 643) south past Leesburg Executive Airport to Cochran Mill Road (Route 653). Turn left onto Cochran Mill Road, then right onto Gant Lane. Cross under an overhead powerline easement and bear right. Park where Gant Lane dead ends at a metal gate; property can be accessed on foot via the gate. Currently, there is no other vehicular access to the site.

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I. APPLICATION INFORMATION

APPLICANT Green Energy Partners/Stonewall Creek LLC
John A. Andrews, II and Jordan Dimoff
PO Box 660
Hamilton, VA 20159
540-338-9040

REPRESENTATIVE Walsh Colucci Lubeley Emrich & Walsh PC
Kimberlee Welsh Cummings
One East Market Street, 3rd Floor
Leesburg, VA 20176
703-737-3633

REQUEST Zoning Map Amendment to rezone 90.5 acres from TR-10 (Transitional Residential - 10) and JMLA-20 (Joint Land Management Area - 20) to MR-HI (Mineral Resource - Heavy Industry) and a Special Exception and Commission Permit for utility generating plant and transmission facility. Application accepted on April 3, 2009.

LOCATION Northeast of Dulles Greenway (Route 267), east of Sycolin Road (Route 643), south of Cochran Mill Road (Route 653), and west of Gant Lane (Route 652).

TAX MAP/PARCEL #/ACREAGE/PROPERTY OWNERS

TAX MAP NUMBER	PIN NUMBER	ACREAGE	OWNERSHIP
/60////////38/	193-38-4362	42.47	Evergreen Loudoun – One Limited Partnership
/60////////38A	193-49-0539	0.32	Evergreen Loudoun – One Limited Partnership
/60////////39/	194-48-6020	4.88 acre portion of a 59.94 acre parcel	LTI Limited Partnership
/61////////12/	193-39-3665	30.89	John A. Andrews, Trustee
/61////////14/	193-29-6778	11.96	LTI Limited Partnership
TOTAL ACREAGE		90.5 acres	

ZONING (existing) TR-10 (Transitional Residential - 10) and JMLA-20 (Joint Land Management Area - 20)
(proposed) MR-HI (Mineral Resource - Heavy Industry)

SURROUNDING ZONING/LAND USES

	ZONING	PRESENT LAND USES
NORTH	JLMA-20	Park (Philip A. Bolen Memorial Park)
SOUTH	TR-10	Vacant
EAST	TR-10	Vacant (proposed Luck Stone quarry expansion)
WEST	TR-10	Vacant

II. SUMMARY OF DISCUSSION

Topic	Issues Reviewed and Status
Comprehensive Plan	<ul style="list-style-type: none"> Consistency with the <u>Revised General Plan</u> (RGP): the use would be consistent with energy policies if the outstanding issues regarding compatibility with adjacent residential and park properties are resolved. Status: Unresolved, but Staff could support the use upon resolution of outstanding issues. Provide 70% open space. Status: Resolved but discussion needed - can achieve 67.96% open space by eliminating the solar array. If 52% is acceptable, solar array can remain. Mitigate noise impacts. Status: Resolved with condition. Demonstrate the visual impacts of the water vapor plume. Status: Unresolved.
Emergency Services	<ul style="list-style-type: none"> Specify that the 1-time contribution of \$0.10 per square foot applies to the footprint of the entire combined cycle plant rather than gross building area. Status: Unresolved. Proffering to submit an emergency operations plan for review and approval. Status: No issues.
Zoning	<ul style="list-style-type: none"> Compliance with MR-HI zoning district - Additions to an existing MR-HI district must be <i>contiguous</i> to an existing MR-HI district. Status: Contingent upon approval of Luck Stone Quarry ZMAP 2009-0003. Submit a noise study and propose specific noise attenuation measures for review as part of this application. Status: Unresolved. Consolidate the parcels. Status: Resolved with SPEX condition. Comply with the maximum 40-foot building height. Status: Resolved. Complete staff recommended plat revisions. Status: Unresolved. Staff recommends a 10-year period of validity for the SPEX. Status: No issues. Condition of approval added.
Parks	<ul style="list-style-type: none"> Dedicate the 8.5 acres of floodplain along the northern property line to the County for passive park uses. Status: Unresolved.
Historic/ Archaeology	<ul style="list-style-type: none"> Provide a public narrative on the history of the Lower Sycolin Community. Status: Unresolved.
Environmental	<ul style="list-style-type: none"> Address air quality. Status: Resolved. Treat and monitor Sycolin Creek water quality. Status: Resolved with condition. Mitigate wetland and stream impacts. Status: Resolved with condition. Do not disturb very steep slopes. Status: Resolved with condition. Expand the tree conservation area to include southwest corner of the property. Status: Resolved – area to be replanted upon completion of construction. Protect wood turtle during construction. Status: Resolved with condition.
Transportation	<ul style="list-style-type: none"> Improve Gant Lane between the subject property's entrance and Cochran Mill Road. Status: Unresolved. Dedicate right-of-way for the CTP realignment of Cochran Mill Road. Status: Unresolved.
Proffer Review	<ul style="list-style-type: none"> Continue working with Staff on Proffer Statement revisions. Status: Currently under review.

Policy or Ordinance Sections Subject to Application	
<u>Revised General Plan</u>	Chapter 2: Energy and Communication Facilities. Chapter 5: The Green Infrastructure. Chapter 7: Planned Land Use Map. Chapter 8: Transition Policy Area/Non-residential. Chapter 9: The Towns/Leesburg. Chapter 11: Implementation/Proffer Guidelines.
<u>Heritage Preservation Plan</u>	Chapter 2: Archaeological Resources/Policy 4
<u>Bicycle and Pedestrian Mobility Master Plan</u>	Chapter 4: Recommended Policies and Guidelines/B. Land Development.
<u>Revised 1993 Zoning Ordinance</u>	Sections 1-205(J) and 5-900(A)(10) Building and Parking Setbacks. Section 1-103(D) Building Height Exemptions. Section 3-1000 MR-HI Mineral Resources – Heavy Industry. Section 4-1400 AI-Airport Impact Overlay District. Section 4-1500 FOD – Floodplain Overlay District. Section 4-1800 QN – Quarry Notification District. Section 5-621 Public Utilities. Section 5-1100 Parking requirements. Section 5-1200 Signage. Section 5-1300 Tree Planting and Replacement. Section 5-1400 Buffering and Screening. Section 5-1504 Light and Glare Standards. Section 5-1507 Noise Standards. Section 6-1211 Rezoning Criteria for Consideration. Section 6-1310 Special Exception Criteria for Consideration. Section 6-1313 Period of Validity.

III. CONCLUSIONS

1. The use is not currently consistent with the Energy and Communication Facilities policies of the Revised General Plan, which state that electric generation facilities that use clean burning and environmentally sound and proven fuel sources for power generation can be located only where their impact on the surrounding land uses and the environment is compatible.
2. The subject property is not currently contiguous to an existing MR-HI zoning district, and therefore, does not meet the minimum lot size and location requirements established by the Revised 1993 Zoning Ordinance for the MR-HI zoning district.
3. The application provides 67.96 percent open space, which is consistent with the intent of the Revised General Plan policy calling for 70 percent of a site within the Lower Sycolin subarea of the Transition Policy Area to be devoted to open space.
4. The application fails to adequately address environmental impacts.

5. The application does not adequately mitigate local road impacts.
6. According to the Applicant, the use would have a positive economic impact upon the County during construction and once operational.

IV. CONDITIONS OF APPROVAL (SPEX)

1. Substantial Conformance. The approved Special Exception Use, a utility generating plant and transmission facility, shall be developed in substantial conformance with the Special Exception Plat, consisting of three (3) sheets numbered as 1, 2, and 4 and labeled as "COVER SHEET", "REZONING PLAT/NOTES, TABULATIONS & REQUIREMENTS", and "ZMAP/SPEX/CMPT Plat" respectively, and dated July 2009, as revised through November 20, 2009, and prepared by William H. Gordon Associates, Inc. (the "SPEX Plat"). Approval of this application for Tax Map #s /60////////38/ (PIN # 193-38-4362), /60////////38A (PIN # 193-49-0539), /61////////12/ (PIN # 193-39-3665), /61////////14/ (PIN # 193-29-6778), and a portion of /60////////39/ (PIN # 194-48-6020) (collectively the "Property") shall not relieve the Applicant or the owners of the Property from the obligation to comply with and conform to any Zoning Ordinance, Codified Ordinance, or applicable requirement. As used in these conditions, "Applicant" includes the owner of the Property subject to this Special Exception approval, its successors, and parties developing, establishing or operating the approved Special Exception Uses.
2. Period of Validity. This Special Exception approval shall be valid for ten (10) years from the date on which the Special Exception was granted, unless within such ten (10) year period: (1) a building permit is obtained and the erection or alteration of a structure is started and diligently pursued, and (2) an occupancy permit is obtained and a use commenced. Such period of validity may be extended for good cause shown, provided that an application is submitted to the Board of Supervisors a minimum of thirty (30) days before the expiration date in accord with the Revised 1993 Zoning Ordinance Section 6-1313..
3. Lot Consolidation. Prior to site plan approval, the Property shall be consolidated into one parcel.
4. Utility Lines. The Applicant shall group and bury utility lines and facilities to the extent permitted by law.
5. Noise. Prior to site plan approval, the Applicant shall submit a noise study to the County for approval. The noise study shall analyze the maximum noise potential of the special exception use, including but not limited to predicted noise during construction of the special exception use, baseline noise generated by the day-to-day operations of the special exception use, the cumulative noise once the single-cycle peaker turbines are in operation, and the cumulative noise once emergency back-up generators or equipment are in operation. The noise study shall include an assessment of whether the proposed noise measures can achieve noise attenuation that meets the Zoning Ordinance limits for adjacent residential properties and for Phil Bolen Park property. The noise study

shall include recommendations for specific noise attenuation measures.

The Applicant shall conduct noise testing during construction and once the hybrid energy plant is operational to ensure that noise levels do not exceed the Zoning Ordinance limits. Should the testing results at any time determine that noise levels exceed Zoning Ordinance limits, the Applicant shall take immediate action to bring the noise levels into compliance through the use of noise attenuation measures.

6. Open Space. A minimum of 61.5 acres of open space shall be provided on the Property. Open space is defined as an area that is left in its natural state, such as forests, wetlands, or meadows; and trails and trail connections. On the Property, areas labeled as "REPLANTING AREA" may count towards the minimum 61.5 acres of open space. No more than twenty-five (25) percent of the required buffers (such as perimeter buffers) and "leftover spaces" (such as leftover edges and corners of properties, parking lot islands, and stormwater management facilities that are not a year-round amenity (i.e. surrounded by a trail or benches) shall be credited as open space.
7. Lighting. All exterior lighting, including security lighting, shall be designed and installed to minimize light trespass and the visibility of lighting from properties offsite of the Property. Exterior light fixtures shall be full cut-off and fully shielded and shall direct light downwards and into the interior of the Property and away from surrounding public roads and properties. Exhaust stacks, storage tanks, cooling towers, turbines, HRSG's, and similar tall structures shall not have exterior lighting, unless otherwise required by law, ordinance, or regulation.
8. Fire & Rescue. Prior to occupancy, the Applicant shall provide Fire, Rescue and Emergency Management Planning staff an Emergency Operations Plan (EOP) for review and approval. The EOP shall include an evacuation plan and access and circulation of emergency personnel and vehicles. In conjunction with the initial submittal of each site plan for the Property, the Applicant shall submit such site plan to Fire, Rescue and Emergency Management Planning for review and approval to ensure that the site layout provides emergency vehicles and personnel adequate access and circulation throughout the Property.
9. Water Quality. Surface water quality monitoring shall be conducted by the Applicant for the purpose of monitoring water quality impacts of the Special Exception Uses on the adjacent Sycolin Creek. The Applicant shall install a permanent stream monitoring gage for Sycolin Creek that shall record the average flow, temperature, pH, conductivity and turbidity every 15 minutes. The monitoring station shall be installed and begin operation concurrently with improvement of the Gant Land crossing but prior to site development and shall be maintained by the owner for 10 years following project completion, after which the County will have the option to continue with the maintenance and monitoring of the station. The monitoring station shall be located in Sycolin Creek immediately downstream of the plant outfall location.

The Applicant shall also monitor the flow, temperature, pH, conductivity and turbidity from the drainage leaving the plant on a weekly basis and shall report said findings to

the County and State on a quarterly basis. At both locations, water quality samples shall be collected and analyzed for total dissolved solids (TDS), total suspended solids (TSS), Total Nitrogen and Total Phosphorus on a monthly basis. One half of these samples will be collected following a period where the site received at least 0.5" of rain in a 48 hours period. If state permit standards are more stringent than these conditions, the state standards shall apply.

If at any time the monitoring results exceed the established water quality thresholds, the Applicant shall take immediate action to investigate the condition. If the condition is a result of activity on the Property, the Applicant shall take immediate action to return water quality to the established water quality thresholds.

10. Stormwater Treatment. The Property shall be developed in accordance with Best Management Practices (BMPs). The Applicant shall (a) incorporate best management practice (BMP) treatment for all storm runoff leaving impervious surfaces (b) design all BMP's to treat the first inch of storm runoff from impervious surfaces, and (c) design all BMP's to remove a high percentage of phosphorous, not lower than 50 percent.
11. Wood Turtle. Prior to beginning work in the area of the wood turtle habitat identified in the Applicant's endangered and threatened species study, the Applicant shall perform a search for wood turtles in the area to be affected by construction. The Applicant shall provide educational materials about the wood turtle to contractors working on the Property. The Applicant shall use bridge spans or bottomless culverts to prevent barriers of migration.
12. Very Steep Slopes. Prior to and during construction, the Applicant shall survey, flag, and install super silt fencing or temporary chain link fencing, in lieu of plastic orange fencing, near the very steep slope areas that are located in proximity to the area to be affected by construction.
13. Gant Lane. The Applicant shall construct to VDOT standards a paved, two-lane section of Gant Lane, including an improved bridge crossing over Sycolin Creek.
14. Cochran Mill Road. The Applicant shall dedicate to the County 70 feet of right-of-way for a four-lane undivided Cochran Mill Road including necessary left- and right-turn lanes and easements.
15. Construction Management. Prior to site plan approval, the Applicant shall submit a Construction Management Plan to the Office of Transportation Services (OTS) for review and approval. Such plan shall address temporary construction entrances and access routes, delivery schedules for wide loads during off-peak times, and measures for minimizing conflicts on access routes to and from the site.
16. Inspections. The County reserves the right to inspect the site at any reasonable time without prior notice to insure that the operation of the hybrid energy plant meets the requirements of the Revised 1993 Zoning Ordinance, these conditions, the codified ordinance or other regulatory requirement.

17. Discontinuance of Use. At such time as the Property shall not be used for power production and transmission, the Applicant shall restore the site substantially to its prior condition, or such other condition as may be approved by the Board of Supervisors.

V. PROJECT REVIEW

A. CONTEXT

This application includes three requests. First, the application seeks to rezone 4 parcels and a portion of a fifth, totaling approximately 90.5 acres, from TR-10 (Transitional Residential - 10) and JMLA-20 (Joint Land Management Area - 20) to MR-HI (Mineral Resource - Heavy Industry). Approval of the rezoning would permit any of the permitted uses in the MR-HI zoning district on the property, such as excavation, mining, dredging, stripping, warehousing, manufacturing, and that the Proffer Statement would apply to the rezoned property. Second, the proposed hybrid energy park use, a “utility generating plant and transmission facility” as defined in the Zoning Ordinance, is a special exception use within the MR-HI district, and any imposed conditions of approval would apply specifically to the “utility generating plant and transmission facility” use. A Commission Permit is also required to determine if the use’s location, character, and extent are substantially in accord with the adopted comprehensive plan.

The proposal is to develop a hybrid energy plant that uses natural gas, steam, and possibly solar arrays to generate up to 981 Megawatts (MW) of electricity. The existing natural gas transmission lines on the property will be the source of the power plant’s natural gas. As a water source for the steam turbine, the Applicant plans to either (1) purchase 5 million gallons of wastewater effluent per day from the Leesburg Wastewater Treatment Plant; the effluent is currently discharged into the Potomac River or (2) obtain water from Loudoun Water. The applicant plans to sell the generated power to a distributor such as Dominion Virginia Power, sending the power to the grid using the existing overhead electrical transmission lines on the property.

As shown to the right, the Applicant selected the site because of its access to natural gas, the power grid, and water. Two existing underground natural gas lines (Columbia and Dominion) and two existing overhead high-voltage electrical transmission towers with 3 separate transmission lines (one 500kV and two 230kV) cross the property in a north-south direction. These existing utilities would provide the hybrid energy plant access to natural gas to power the combustion turbines and allow power generated from the hybrid energy plant to be transmitted to the grid.



To the east of the subject property is the proposed Luck Stone Quarry expansion (ZMAP 2009-0003), and to the southeast is the proposed Loudoun Water Treatment Facility. Philip A. Bolen Memorial Park lies to the north. The subject property is located within the Goose Creek Watershed and contains significant river and stream resources associated with Sycolin Creek. Sycolin Creek is a tributary of Goose Creek, which in turn flows into the Potomac River. Goose Creek is impounded east of the subject property, forming the Goose Creek Reservoir. The subject property lies approximately 1,500 feet from the Goose Creek Reservoir. The property encompasses major and minor floodplain, wetlands, forest resources (Northern Hardpan Basic Oak-Hickory community), steep slopes, diabase, habitat (wood turtle, loggerhead shrike, Henslow's sparrow, and hairy beardtongue), and historic and archaeological resources. A Scenic Creek Valley Buffer extends 150 feet from the channel scar line of Sycolin Creek onto the property.

A note-worthy feature of the application is that if approved, the hybrid energy park would have a positive economic impact upon the County both during construction and once operational. Construction of the Applicant's projected \$829 million hybrid energy park is expected to take 30 months from January 2012 to June 2014 with an opening date of summer 2014. The Applicant expects the construction of the project to create 844 jobs, primarily in the construction field, and to generate an average of \$127.8 million per year in positive economic impacts to the County. The Applicant also claims that during the construction phase, including businesses that would support the power plant such as transportation firms and service-related industries, where the workers would shop such as restaurants and retail stores, the construction phase would support 1,205 jobs and \$183 million per year into the County's economy. The Applicant estimates that once operational, the hybrid energy park would employ 25 permanent employees and would generate an average of \$18.4 million per year in direct economic impacts to the County.

These applications are the first steps in the approval process. If approved, the Applicant can proceed with submitting the various state and federal permit applications that are required for the proposed use, a process expected to take up to two years. For example, an air permit is required from Virginia Department of Environmental Quality (DEQ) that would limit the hybrid energy park to specific maximum emissions and would require monitoring to assure adherence to those limits. Other permits would regulate water supply, wastewater discharge, storm water, wetlands and streams, endangered species, wildlife, forest resources, cultural and archeological resources, erosion and sediment control, and geology and mineral resources, transportation infrastructure.

B. SUMMARY OF OUTSTANDING ISSUES

1. Land Use – To comply with Revised General Plan policies for the Transition Policy Area and for Energy and Communication Facilities, the application needs to address compatibility with the residential and park uses to the west and east and provide adequate open space to maintain a visual and spatial transition between the suburban and rural areas.
2. MR-HI Zoning – The rezoning is contingent upon approval of the Luck Stone Quarry rezoning to MR-HI (ZMAP 2009-0003). Additions to existing MR-HI districts are allowed

if they are *contiguous* to an existing MR-HI zone. The subject property is not currently contiguous to an existing MR-HI district, but would be if Luck Stone's expansion is approved. The Board of Supervisors cannot take action on this application until the property is contiguous to an existing MR-HI zone.

3. Open Space – Revised General Plan (RGP) policy calls for 70 percent open space in the Lower Sycolin subarea. Staff finds the proposed 67.96 percent acceptable. The Applicant wishes to discuss 52 percent open space in order to use 14.32 acres for a solar array rather than open space.
4. Transportation – (a) The Applicant agrees to improve Gant Lane on the subject property and along the subject property's frontage, but does not agree to improve the off-site section of Gant Lane between the subject property's entrance and Cochran Mill Road, which Staff finds is necessary to mitigate the impacts of the use. (b) The Applicant does not agree to dedicate the 70 feet of right-of-way for Cochran Mill Road to cross the northwest portion of the subject property, as shown on the Revised Countywide Transportation Plan (CTP).
5. Historic and Archaeological Resources – The Applicant offers to proffer a \$10,000 donation to a non-profit entity towards the production of the narrative to document the collective history of post Civil War, African-American settlement of Lower Sycolin. At issue is that the proffered amount would not cover the cost of producing the narrative, and if donated to a non-profit entity, it would be unenforceable by the County.
6. Parks – The Applicant has proffered to grant an easement adjacent to Sycolin Creek to the County for passive park uses prior to site plan approval. Staff suggests amending the proffer to dedicate a specific acreage that is delineated on the Concept Plan. Staff suggests dedicating all of the 8.5 acres of floodplain adjacent to Sycolin Creek that is not impacted by a future alignment of Cochran Mill Road to the County.

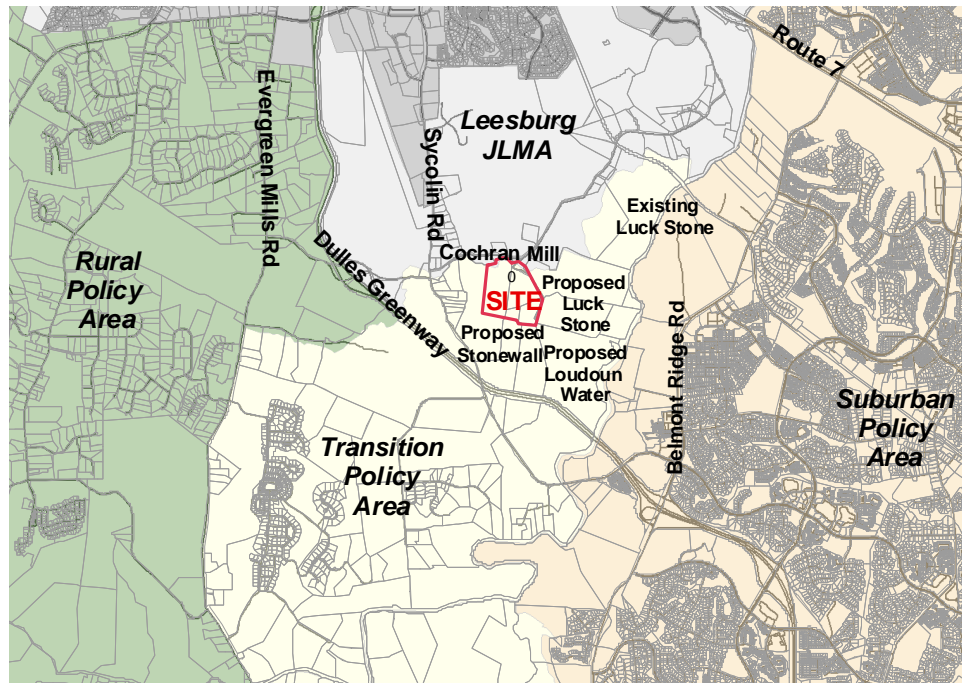
C. OVERALL ANALYSIS

COMPREHENSIVE PLAN

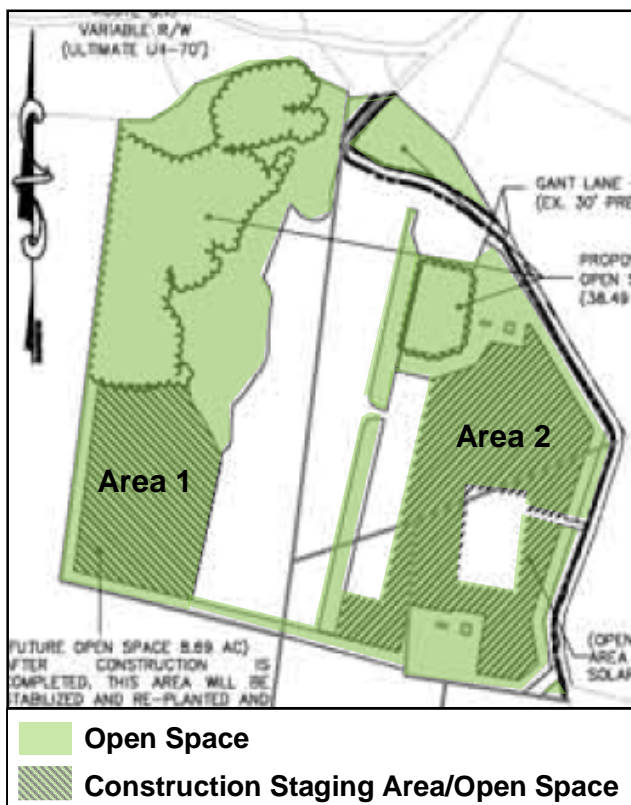
Land Use

With the exception of approximately 2.3 acres within the Leesburg Joint Land Management Area (JLMA), the property is within the Lower Sycolin Community of the Transition Policy Area. The RGP envisions that development within the Lower Sycolin subarea will be more rural character with lower densities and greater open space than other Transition Policy Area subareas in order to provide a visual and spatial transition between the suburban development in the east and rural development to the west and to protect on-site resources.

However, the Energy and Communication Facilities policies of the RGP, which apply Countywide, state that electric generation facilities that use clean burning and environmentally sound and proven fuel sources for power generation can be located only where their impact on the surrounding land uses and the environment is compatible. The policies also support the timely delivery of electrical service to businesses and households as development occurs, but seek to minimize the negative visual impacts.



Given the presence of the natural gas and electrical transmission lines and the proximity to Luck Stone Quarry, the Leesburg Executive Airport, the City of Fairfax Water Plant, and proposed Loudoun Water treatment plant, the proposed use may be reasonable if the application addresses its environmental issues and potential negative impacts upon surrounding land uses and provides adequate open space to provide a visual and spatial transition between the suburban and rural areas. Staff has offered recommended conditions of approval to address these outstanding issues, as discussed in greater detail below.



Open Space

The proposed 67.96 percent (61.5 acres) of open space meets the intent of the RGP policy, which calls for a minimum of 70 percent of a site to be devoted to open space. Note that the 67.96 percent includes 8.69 acres in the southwest corner of the site (Area 1) and 14.32 acres on the southeast portion of the site (Area 2) that would be cleared and used for staging

during construction, then stabilized and replanted for use as open space once construction is complete.

Discussion is needed regarding Area 2. The 14.32 acres in Area 2 were originally proposed for a solar array. The Concept Plan currently shows the area as either open space or a solar array. The Applicant would like to discuss using Area 2 for a solar array rather than open space, which would reduce open space to 52 percent. Staff also notes that if the future alignment of Cochran Mill Road were shown on the Concept Plan, the amount of open space would decrease. At the site plan stage, the Applicant will be required to reserve right-of-way for the roadway.

Noise

The proposed use includes safety relief valves, exhaust stacks, and combustion turbines that generate noise. Phil Bolen Park lies east of the subject property, and the closest residential property is located on the north side of Cochran Mill Road approximately 160 feet from the property line and 1,700 feet from the closest gas turbine.

The Applicant will be required to comply with the noise standards of Section 5-1507 of the Revised 1993 Zoning Ordinance. The standards limit continuous noise to 55 decibels (dBa) at the property line adjacent to residential or park property and limit impact noise to 60 dBa at the property line adjoining a residential or park zoning district. Additionally, the Applicant is agreeable to a condition of approval requiring the Applicant to conduct a noise study after the equipment is selected and after the final design of the power plant is completed and to conduct noise testing once the plant is constructed and operational. The condition specifies that the study will analyze noise that would occur during construction, baseline noise generated by the day-to-day operations of the hybrid energy plant, and the cumulative noise once the single-cycle turbines are added during peak times—the coldest winter and hottest summer months—including any noise generated by emergency back-up equipment. The condition would also require immediate remediation of noise impacts that exceed the Zoning Ordinance requirements.

Lighting

Lighting is especially important given the project's proximity to residences and Phil Bolen Park. The Federal Aviation Administration (FAA) has made a determination that the proposed tall structures and equipment, which are up to a maximum of 150 feet tall, would not be a hazard to air navigation and therefore, will not be required to be illuminated for aviation safety. (Refer to the Applicant's Aeronautical Study.) The Proffer Statement includes a lighting proffer (III.10), and Staff has included a condition that would prohibit lighting the tall structures unless required by the FAA or other governmental regulation and that would require exterior lighting throughout the property to be downward-directed and fully shielded.

Visual Impacts of Vapor Plume

The application does not adequately address the visual impacts of the water vapor plume from the cooling tower. Staff notes that the plume would be a mist that would evaporate; it would not deposit water droplets on or off the plant property. The Applicant's air quality study indicates that the plume would be visible within the plant boundary virtually at all times that the plant is

operating. The plume is expected to be visible beyond the property boundaries to the northwest and southwest of the cooling tower for approximately 5 hours per year and visible from the Leesburg Airport for approximately 8 minutes per year. How far to the northwest and southwest the plume would be visible off-site would vary depending on wind.

According to the study, the typical height of the plume would be approximately 150 feet from ground level to the top of the plume, but it could rise to 500 feet. The length and height of the plume would vary depending on the weather (temperature and humidity), with the plume being most visible during the coldest, wettest weather. In order to adequately assess visual impacts, Staff requests that the Applicant provide photographs or a video demonstrating the appearance of the plume under various meteorological conditions.

HISTORIC AND ARCHAEOLOGICAL RESOURCES

There is one outstanding issue related to documentation of the Lower Sycolin African-American Community bounded by Cochran Mill Road, Sycolin Road and Goose Creek. Two archaeological sites (Sites 44LD1326 and 44LD1328) are located on the subject property, and a third site (Site 44LD1330) is off-site but could be impacted by improvements to or construction traffic on Gant Lane. These three sites are the remains of late 19th to early 20th century house sites and are believed to be the vestiges of the post Civil War, African-American settlement of Lower Sycolin. These sites are not considered eligible for listing in the National Register of Historic Places as individual historic resources because the physical remains of the archaeological sites and the barn, as shown above, do not retain sufficient integrity to warrant preservation.



Although the physical remains of the Lower Sycolin Community within the project area do not merit preservation individually due to their poor condition, collectively the history of the Lower Sycolin settlement is worthy of recordation. There are very few remaining buildings that mark the Lower Sycolin community, and the history of Lower Sycolin has not been well researched.

The Applicant offers to proffer a \$10,000 donation to a non-profit entity for the production of such a narrative. At issue is that this amount represents only a portion of the cost of a study, and donating the funds to a non-profit entity makes the proffer unenforceable by the County. Consistent with the Heritage Preservation Plan, Staff suggests that the Applicant proffer to contract with a professional consultant to produce a detailed public narrative on the history of Lower Sycolin based on a Scope of Work approved by Department of Planning staff.

EMERGENCY SERVICES

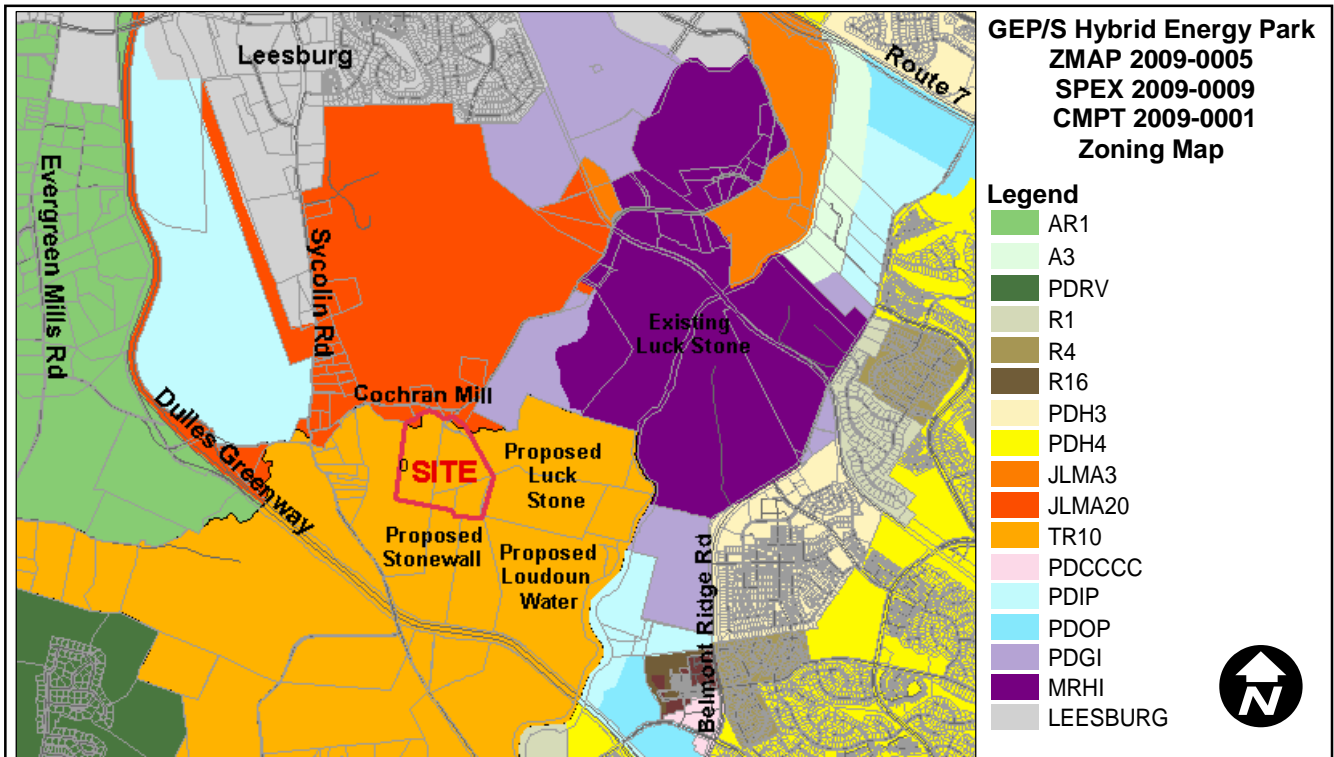
There is one outstanding fire and rescue issue. Proffers include a one-time fire and rescue contribution of \$0.10 per square foot of proposed gross building area at the time of zoning

permit issuance to be divided equally between the servicing fire and rescue companies. Since the project will only include two buildings—a guard house and an administration building—and the entire hybrid energy plant requires emergency services, Staff suggests that the proffer be amended to specify that the contribution applies to the footprint of the hybrid energy facility.

The Applicant has proffered to submit an emergency operations and evacuation plan to the Department of Fire, Rescue and Emergency Management for approval prior to occupancy. A proffer indicates that Hybrid Energy Park employees will provide first response to emergencies on the property. The Leesburg Volunteer Fire and Rescue Company will provide fire and rescue services to the site with estimated response times of 9 minutes, 47 seconds for fire and 10 minutes, 45 seconds for rescue.

ZONING

As shown on the Zoning map below, the five subject parcels are currently zoned TR-10 (Transitional Residential-10) with the exception of the two northernmost parcels, which are split-zoned TR-10 and JLMA-20 (Joint Land Management Area-20). Staff notes that consolidation of the five parcels is necessary in order to eliminate the internal lot lines and associated required yards and setbacks. A condition of approval has been added that would address this. Under the current TR-10 zoning designation, residential uses could develop at a density of 1 dwelling unit per 10 acres, as well as agricultural, public and institutional, commercial, and industrial uses at an FAR (Floor Area Ratio) of 0.05.



MR-HI

There is one outstanding zoning issue. The application cannot be approved unless and until Luck Stone Quarry's active rezoning application (ZMAP 2009-0003) for the adjacent property to the east is approved. The proposal does not currently meet the minimum MR-HI district size and location requirements of Section 3-1002 of the Revised 1993 Zoning Ordinance. The minimum district size is 600 acres, but *contiguous* additions of not less than 10 acres are allowed. The proposed district is 90.5 acres and is not currently contiguous to an existing MR-HI zone.

Height

Height is not currently an outstanding issue. However, throughout the referral process, Staff questioned whether any of the proposed structures met the definition of a building, because the maximum building height in the MR-HI district is 40 feet, and building heights cannot be modified within the MR-HI zoning district. Proposed structures within the hybrid energy plant that exceed 40 feet in height include two 65-foot tall water tanks, a 75-foot tall cooling tower, a 100-foot tall steam turbine, two 70-foot tall and two 110-foot tall combustion turbines, plus four exhaust stacks that could be up to 140 feet tall.

Staff notes that as depicted on the Applicant's Typical Details and Illustrative Exhibit, the enclosure proposed for the steam turbine meets the definition of a building and would be limited to 40 feet. All other structures within the project appear to be exempt from the maximum building height requirements under Section 1-103(D)(2) of the Revised 1993 Zoning Ordinance.

Period of Validity

Due to the extensive state and federal permitting processes associated with the proposed use, Staff has recommended a condition that would extend the validity period of the special exception to ten (10) years. The Zoning Ordinance allows a validity period of five (5) years unless otherwise specified in the special exception conditions.

Proffer Statement

The Applicant's response to Staff's second referral comments and draft Proffer Statement indicate the Applicant's willingness to address many of Staff's suggested proffer changes. In general, the intent is there, but additional discussion is needed on the specific language.

Staff notes that several plat revisions remain outstanding. For example, at a height of 65 feet, the two water tanks are required to be located a minimum of 65 feet from the property line. A utility substation use is referenced on the Concept Plan, but not a proposed use. Refer to Zoning Administration's second referral for a complete list of needed plat revisions.

ENVIRONMENTAL

Within the Transition Policy Area, environmental features are to be preserved and integrated into the development. The subject property contains significant environmental resources, including river and stream corridors, floodplains, wetlands, riparian vegetation, perennial and intermittent streams, natural drainageways, forest resources, steep and moderately steep slopes, habitat, historic and archaeological resources, diabase and hydric soils. Staff has

added recommended conditions of approval to avoid potential environmental impacts, as discussed below.

Air Quality

The proposed use will emit pollutants, primarily nitrogen oxides, which are precursors for the formation of ozone, into the air when natural gas is combusted. Other pollutants emitted, but in lesser amounts, include carbon monoxide, particulate matter, volatile organic compounds, and sulfur dioxide. The Applicant's air quality study indicates that the level of these pollutants falls well below the levels that the United States Environmental Protection Agency (US EPA) has set as health standards and far below the levels that the US EPA deems to be significant. Under the guidance of the US EPA, the Virginia Department of Environmental Quality (DEQ) will regulate the hybrid energy park's air emissions by issuing and ensuring compliance with permits that set limits on air pollutants based on the federal Clean Air Act (1970 as amended in 1977 and 1990).

Water Quality

Impacts of the proposed use upon water quality are a major concern. The proposed use would create a higher risk of hazardous contaminants entering Sycolin Creek than a residential development or other commercial development would, even when accounting for required containment and control measures. The proposed use would also produce more polluted storm runoff from impervious surfaces. Aqueous ammonia tanks and propane tanks would be located on the property near the pond, perennial stream, and wetlands. The pollutant risk could threaten existing Sycolin Creek conditions, which currently indicates a high quality stream corridor that includes healthy concentrations of benthic invertebrates and a state threatened species, the wood turtle. Further, state monitoring requirements may not create a continuous measurement of water quality.



Sycolin Creek, along the northern property boundary

To address potential water quality impacts, Staff has included a condition that would require the Applicant to monitor and record the average flow, temperature, pH, conductivity and turbidity of (1) Sycolin Creek every 15 minutes and (2) the flow, temperature, pH, conductivity, and turbidity of the drainage leaving the plant on a weekly basis and will report said findings to the County and State on a quarterly basis. Water quality samples would be collected and analyzed for total dissolved solids (TDS), total suspended solids (TSS), Total Nitrogen and Total Phosphorus on a monthly basis. The condition would require the Applicant to maintain the monitoring for 10 years and to investigate and remediate any water quality readings that fall below established thresholds.

Proffer III.6 includes possible low impact development features but only commits to minimum regulatory standards. To adequately address stormwater treatment for the proposed use, Staff has added a condition that would require (1) incorporating best management practice (BMP) treatment for all storm runoff leaving impervious surfaces, (2) designing all BMP's to treat the first inch of storm runoff from impervious surfaces, and (3) designing all BMP's to remove a high percentage of phosphorous, not lower than 50 percent.

Tree Conservation and Reforestation

The subject property is heavily forested and consists of a mixture of various forest types including an Oak-Hickory Forest community and the less desirable Virginia Pine. Staff notes that forest resources will be lost to create a flat building pad for the hybrid energy park. Staff also notes that forest resources will be cleared in order to construct the hybrid energy park, as 8.69 acres in the southwest portion of the site and 14 acres in the east portion of the site will be used as staging areas during the 30-month construction phase.

Energy and Communication Facilities policies state that areas disturbed by public utilities should be replanted and/or reforested and screened from adjacent uses. As shown on the Concept Plan, the Applicant has agreed to replant the 8.69 acres once construction is complete. Additionally, the Concept Plan shows two tree save areas—11.85 acres in the northwest portion of the site and 1.68 acres in the northeast portion of the site. The Applicant has proffered to coordinate with the County Urban Forester to develop a tree conservation, replanting, and management plan prior to site plan approval (Proffers III.7 and III.8). Staff has included a recommended condition that would strengthen this commitment. Staff suggests that the proffer be amended to correspond to the condition. Another condition would require a soil amendment to convert the construction staging area to reforestation

Staff notes that some forest habitat within Phil Bolen Park could be impacted in order to accommodate water pipe construction that supports the hybrid energy plant. To compensate for such lost forest habitat, Staff has recommended a condition that would require the Applicant to work with PRCS staff to replant/reforest within Phil Bolen Park.

Steep Slopes/Geotechnical

Staff recognizes that it is the Applicant's intent to not impact very steep slopes per RGP policy. The Applicant has included a proffer to use chain link or super silt fencing to protect steep slopes with the River and Stream Corridor Resource Management Buffer. However, the subject property contains several areas of moderately steep and very steep slopes that are located outside of the management buffer. A condition would require the same protection measures to very steep slopes located outside of the management buffer.

Also, more description of the gas pipeline safety during construction is warranted. Staff envisions a large cut adjacent to the gas line easement to create the power plant building pad. Given the soil mapping units on the property, blasting may be required to create the cut. Assuming a permanent retaining wall is built between the gas line and power plant, what design assumptions will be used to assure integrity of the retaining wall given a gas line rupture? To reduce risks to gas pipelines, Staff has included a condition that would require the Applicant to survey, flag, and install super silt fence near the steep slope areas prior to construction.

Habitat

The siting of the proposed hybrid energy plant would impact plant and wildlife habitats. The Applicant's Endangered and Threatened Species Habitat Evaluation documents the presence of the wood turtle, a state-threatened species, along Sycolin Creek. According to the study, the property also contains suitable foraging habitat for two state-threatened bird species (the loggerhead shrike and Henslow's sparrow) and the Hairy beardtongue, a state-rare plant associated with soils derived from diabase rock.

The Applicant's response to Staff's second referrals indicates a willingness to preserve and buffer suitable habitat and take measures to protect the wood turtle during construction. To demonstrate consistency with the RGP, Staff suggests adding a proffer that agrees to implementing the measures recommended in the Applicant's study or coordinating with DGIF on a habitat management plan.

LEED Certification

Proffer III.C commits to LEED certification for inhabited structures. Staff commends the applicant for this commitment but has concerns about being able to verify and enforce this proffer as worded and has provided alternative wording to County Attorney's office to review. If pursued by the applicant, Staff recommends that a LEED proffer include commitments to a pre-site plan meeting with county staff to review anticipated LEED credits; provision of viewing rights for county staff to monitor USGBC online submittal; and a LEED surety that the County will release when certification is awarded, or once County staff verifies independently that the green building features have been completed. Said LEED surety would need to be distinct from performance bonds required by the Facilities Standards Manual.

TRANSPORTATION

There are two outstanding transportation issues related to improving Gant Lane and dedicating Cochran Mill Road (Route 653). Once the use is operational, traffic generated by the use will not negatively impact the surrounding road network. The Applicant's Traffic Study estimates that the use would generate 24 a.m. peak hour, 26 p.m. peak hour, and 89 daily vehicle trips. Intersections in the vicinity of the property are currently operating at a Level of Service A or B and are forecasted to continue operating at such levels after the use is established. A discussion of outstanding transportation issues follows.

Gant Lane (Route 652)

The primary transportation issue is that the Applicant does not proffer to construct off-site improvements to Gant Lane between the subject property's entrance and Cochran Mill Road. The property is accessed from Gant Lane, a narrow unpaved road, approximately 10-12 feet wide, including a concrete bridge culvert with no guard rails over Sycolin Creek. Gant Lane is not included in the CTP, nor is it included in the VDOT Secondary Road Program for widening or improvement. Note that the proposed Loudoun Water Treatment Plant (SPEX 2009-0021 and CMPT 2009-0007) also proposes to use Gant Lane for access and construction traffic.

The Proffer Statement (Proffer II.3) includes the dedication of right-of-way and improvement of a section of Gant Lane that would be located within the boundaries of the subject property. The Applicant does not propose improving Gant Lane between the subject property's entrance and Cochran Mill Road. The application also includes a suggested condition of approval that would require the Applicant to submit a construction traffic management plan to OTS for review and

approval at time of site plan for the purpose of managing temporary construction entrances and access roads and scheduling “wide load” deliveries during off-peak times.

Staff finds that Gant Lane will need to be improved from the project entrance to Cochran Mill Road in order to provide construction traffic safe and adequate access to the subject property during the 30-month construction phase. A Staff recommended condition would require the Applicant to construct a paved, two-lane section of Gant Lane, including an improved bridge crossing over Sycolin Creek. Staff does note, however, that the planned alignment of Cochran Mill Road could serve as the bridge crossing with a realigned Gant Lane intersecting Cochran Mill Road south of Sycolin Creek. Further discussion with the County Office of Transportation Services (OTS) and the Virginia Department of Transportation (VDOT) is needed regarding this issue.

Cochran Mill Road (Route 653)

A second transportation issue is that the Applicant does not proffer to dedicate right-of-way for Cochran Mill Road. Cochran Mill Road is currently an unpaved road, approximately 14-16 feet wide in the vicinity of the site. There are no plans, including under existing proffers or the VDOT Secondary Road Program, to improve this portion of Cochran Mill Road. The CTP calls for this segment of Cochran Mill Road to be a four-lane undivided minor collector within a 70-foot wide right-of-way and left- and right-turn lanes at major intersections. The CTP shows that at Gant Lane, Cochran Mill Road will transition onto a new alignment veering south of Sycolin Creek and through the northwest portion of the subject property and intersecting Sycolin Road approximately 2,500 feet south of the existing Cochran Mill Road (west)/Sycolin Road intersection.

The Applicant states that due to the land uses in the vicinity, Cochran Mill Road is no longer needed to cross the subject property and that future Crosstrail Boulevard will accommodate the traffic between Route 7 and Sycolin Road. Unless otherwise recommended by the Planning Commission and approved by the Board of Supervisors, for consistency with the CTP (both the adopted one and the proposed), the Proffer Statement will need to provide for and the Concept Plan will need to show the dedication of 70 feet of right-of-way for Cochran Mill Road, plus all necessary construction-related easements including drainage, utility, and grading easements.

D. ZONING ORDINANCE CRITERIA FOR APPROVAL

Zoning Map Amendment

Section 6-1211(E) of the Revised 1993 Zoning Ordinance states, “...if the application is for reclassification of property to a different zoning district classification on the Zoning Map, the Planning Commission shall give a reasonable consideration to the following matters...”

(1) *Whether the proposed zoning district classification is consistent with the Comprehensive Plan.*

Given the presence of the natural gas and electrical transmission lines and the proximity to Luck Stone Quarry, the Leesburg Executive Airport, the City of Fairfax Water Plant, and

proposed Loudoun Water treatment plant, the proposed use would be consistent with the RGP Energy and Communications Facilities policies if the Applicant addresses its environmental issues and potential negative impacts upon surrounding land uses and provides adequate open space to provide a visual and spatial transition between the suburban and rural areas.

(2) Whether there are any changed or changing conditions in the area affected that make the proposed rezoning appropriate.

The Applicant contends that there are changing conditions in the area. Staff notes that currently conditions in the area have not changed. However, approval of the active Luck Stone Quarry rezoning application would result in changing conditions that could make MR-HI zoning on the subject property a logical extension of the existing MR-HI zone.

(3) Whether the range of uses in the proposed zoning district classification are compatible with the uses permitted on other property in the immediate vicinity.

The range of permitted uses within the MR-HI zoning district is not compatible with the park to the north or the residential uses to the west. Examples of such incompatible uses include warehousing, blasting, sawmills, and concrete-mixing.

(4) Whether adequate utility, sewer, and water, transportation, school and other facilities exist or can be provided to serve the uses that would be permitted on the property if it were rezoned.

Water, sewer, natural gas, electricity, and other utilities are available to the site. Gant Lane, which would provide access to the site, is not in place, and the Applicant has not proffered to improve the roadway between the property entrance and Cochran Mill Road. School facilities would not serve the proposed use.

(5) The effect of the proposed rezoning on the county's ground water supply.

The property will be served by public water and sanitary sewer, and as such, no ground water impacts are anticipated from water or sewage disposal.

(6) The effect of uses allowed by the proposed rezoning on the structural capacity of the soils.

The Applicant will be required to complete geotechnical studies during the site plan process. Mitigation of any impacts to the structural capacity of the soils will be mitigated by appropriate engineering methods consistent with the Facilities Standards Manual (FSM) and the results of that geotechnical study. Further evaluation of such measures will be completed at the time of administrative site plan review for each respective building and/or zoning permit request.

(7) The impact that the uses that would be permitted if the property were rezoned will have upon the volume of vehicular and pedestrian traffic and traffic safety in the vicinity and whether the proposed rezoning uses sufficient measures to mitigate the impact of through construction traffic on existing neighborhoods and school areas.

Intersections in the vicinity of the property are currently operating at an acceptable Level of Service (LOS) and will continue to do so once the traffic generated by the use is added. The

issue is that the existing conditions of Gant Lane cannot safely and adequately handle the construction traffic and wide loads associated with construction of the use. Mitigation of transportation impacts is an outstanding issues.

(8) Whether a reasonably viable economic use of the subject property exists under the current zoning.

A reasonably viable economic use of the property could be achieved under the current TR-10 zoning, which allows for residential uses at a density of 1 dwelling unit per 10 acres, as well as agricultural, public and institutional, commercial, and industrial uses at an FAR (Floor Area Ratio) of 0.05.

(9) The effect of the proposed rezoning on environmentally sensitive land or natural features, wildlife habitat, vegetation, water quality and air quality.

The project will impact a significant amount of forest cover and habitat and has the potential to impact air quality, water quality, very steep slopes, wetlands, and habitat.

(10) Whether the proposed rezoning encourages economic development activities in areas designated by the Comprehensive Plan and provides desirable employment and enlarges the tax base.

According to the Applicant's economic study, the proposed rezoning would allow the development of a hybrid energy plant that would have positive economic impacts upon the County during and after construction.

(11) Whether the proposed rezoning considers the needs of agriculture, industry, and business in future growth.

The proposed rezoning does consider the needs of industry and business, as it would allow for an electricity generating plant that would provide power to serve such uses.

(12) Whether the proposed rezoning considers the current and future requirements of the community as to land for various purposes as determined by population and economic studies.

The proposed rezoning considered the current and future energy needs of the County, as demonstrated in the submitted studies and background information.

(13) Whether the proposed rezoning encourages the conservation of properties and their values and the encouragement of the most appropriate use of land throughout the County.

The proposed rezoning could have a detrimental impact upon the residential property values to the west.

(14) Whether the proposed rezoning considers trends of growth or changes, employment, and economic factors, the need for housing, probable future economic and population growth of the County and the capacity of existing and/or planned public facilities and infrastructure.

Studies provided by the Applicant consider the capacity of existing utilities and trends towards providing more “green” energy. The application also consider the positive impacts upon the County’s employment and economic factors by proposing to generate power locally to support the County’s employment and population growth.

(15) The effect of the proposed rezoning to provide moderate housing by enhancing opportunities for all qualified residents of Loudoun County.

This rezoning does not propose residential uses.

(16) The effect of the rezoning on natural, scenic, archaeological, or historic features of significant importance.

The rezoning would negatively impact natural resources, specifically forest and habitat resources, and would negatively impact archaeological and historic resources attributed to the African American Lower Sycolin Community.

Special Exception

Section 6-1310 of the Loudoun County Zoning Ordinance states "In considering a special exception application, the following factors shall be given reasonable consideration. The Applicant shall address all the following in its statement of justification or SPEX Plat unless not applicable, in addition to any other standards imposed by this Ordinance":

Standard *Whether the proposed special exception is consistent with the Comprehensive Plan.*

Analysis The proposed hybrid energy park use is not currently consistent with the Revised General Plan, due to outstanding issues associated with environmental, community, and transportation impacts. Upon resolution of those issues, as long as the project provides a transition between the suburban and rural areas, the use would be consistent with the Energy and Communications Facility policies.

Standard *Whether the proposed special exception will adequately provide for safety from fire hazards and have effective measures of fire control.*

Analysis The Applicant has proffered that employees will be trained in emergency first response. The application also includes a proffer to submit an Emergency Operations Plan to Fire and Rescue for review and approval before occupancy.

Standard *Whether the level and impact of any noise emanating from the site, including that generated by the proposed use, negatively impacts the uses in the immediate area.*

Analysis Noise from combustion engines, release valves, and smoke stacks are a concern. The Applicant agrees to conduct a noise study prior to construction and to monitor noise once the plant is operational to ensure compliance with the noise maximums specified in the zoning ordinance.

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- Standard *Whether the glare or light that may be generated by the proposed use negatively impacts uses in the immediate area.*
- Analysis Lighting is not required or proposed on the tall structures that comprise the hybrid energy plant. The Applicant has proffered to minimize lighting and glare. A Staff recommended condition also requires full cut off and shielded lighting.
- Standard *Whether the proposed use is compatible with other existing or proposed uses in the neighborhood, and adjacent parcels.*
- Analysis Without additional environmental and community impact commitments, the proposed use will not be compatible with the park to the north and the residential uses to the west.
- Standard *Whether sufficient existing or proposed landscaping, screening and buffering on the site and in the neighborhood to adequately screen surrounding uses.*
- Analysis The proposed 67+ acres of open space will provide adequate buffering on the site. The two tree preservation areas and one replanting area will also help maintain existing tree cover and restore lost tree cover. If the 14+ acres are used for a solar array rather than open space, sufficient buffering may not be provided
- Standard *Whether the proposed special exception will result in the preservation of any topographic or physical, natural, scenic, archaeological or historic feature of significant importance.*
- Analysis The Applicant is agreeable to preserving the physical remains of an archaeological and historic resource, the Lower Sycolin settlement. However, individually the resources have lost their integrity and do no warrant preservation. Collectively, the resource remains and needs to be documented for the public.
- Standard *Whether the proposed special exception will damage existing animal habitat, vegetation, water quality (including groundwater) or air quality.*
- Analysis Habitat could be compromised by the proposed use. Air quality and water quality could also be at risk. Adherence to Staff recommended conditions would help minimize such impacts.
- Standard *Whether the proposed special exception at the specified location will contribute to or promote the welfare or convenience of the public.*
- Analysis The proposed use will promote the welfare and convenience of the public by producing electricity locally.
- Standard *Whether the traffic expected to be generated by the proposed use will be adequately and safely served by roads, pedestrian connections and other transportation services.*
- Analysis Existing Gant Lane cannot adequately and safely serve the construction traffic that will be generated during the 1½ year construction of the use. A condition of approval would require the Applicant to construct an improved section of Gant

Lane south from Cochran Mill Road to the proposed Hybrid Energy Park entrance.

Standard *Whether, in the case of existing structures proposed to be converted to uses requiring a special exception, the structures meet all code requirements of Loudoun County.*

Analysis The only existing structure on the site is a barn, and it will not be used in the operations of the hybrid energy plant.

Standard *Whether the proposed special exception will be served adequately by essential public facilities and services.*

Analysis The proposed use will not be adequately served by Gant Lane. The roadway needs to be improved from the site entrance to Cochran Mill in order to accommodate construction traffic.

Standard *The effect of the proposed special exception on groundwater supply.*

Analysis Staff has recommended conditions to avoid adverse impacts upon the groundwater supply.

Standard *Whether the proposed use will affect the structural capacity of the soils.*

Analysis The site contains hydric and diabase soils as well as very steep slopes. The Applicant will be required to conduct a geotechnical study during the site plan process to ensure no adverse affects on the structural capacity of the soils.

Standard *Whether the proposed use will negatively impact orderly and safe road development and transportation.*

Analysis If Gant Lane is not improved from the site entrance to Cochran Mill, the construction traffic will negatively impact orderly and safe transportation. The Applicant has agreed to submit a construction management plan to the County for review and approval.

Standard *Whether the proposed special exception use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.*

Analysis The proposed use will provide over 800 primarily construction jobs during the construction phase and 25 jobs once the plant is operational. The proposed use will enlarge the tax base and have a positive impact upon the County.

Standard *Whether the proposed special exception considers the needs of agriculture, industry, and businesses in future growth.*

Analysis The proposed special exception considers the needs of the industry and business by proposing to provide a local source of electricity.

Standard *Whether adequate on and off-site infrastructure is available.*

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- Analysis Off-site transportation infrastructure is not available to the site. Gant Lane needs to be improved from the site to Cochran Mill Road to serve the use during construction.
- Standard *Any anticipated odors which may be generated by the uses on site, and which may negatively impact adjacent uses.*
- Analysis Odors are not anticipated to extend beyond the property boundaries.
- Standard *Whether the proposed special exception uses sufficient measure to mitigate the impact of construction traffic on existing neighborhoods and school areas.*
- Analysis The applicant proffers to submit a construction management plan to the County for review and approval to address avoid impacts to residences. However, the existing Gant Lane cannot serve the construction traffic and needs to be improved from the site entrance northward to connect to Cochran Mill Road.

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VI. ATTACHMENTS <i>(Attachments are available electronically on the County website or may be viewed at the Planning Department Front Counter or in Building & Development.)</i>	PAGE NUMBER
1. Review Agency Comments	
a. Planning Department, Community Planning (07-02-09, 10-26-09)	A-1
b. Building and Development, Zoning Administration (11-04-09)	A-42
c. Building and Development, ERT (05-21-09, 10-23-09)	A-50
d. Office of Transportation Services (OTS) (04-29-09, 11-20-09)	A-57
e. Virginia Department of Transportation (04-08-09)	A-76
f. Fire, Rescue, & Emergency Management (05-05-09, 10-21-09)	A-79
g. Loudoun Water (formerly LCSA) (05-18-09 11-02-09)	A-81
h. Loudoun County Health Department (04-09-09)	A-83
i. Parks, Recreation and Community Services (PRCS) (04-29-09, 11-04-09)	A-84
j. Community Information and Outreach (CIO) (06-01-09, 10-26-09)	A-96
k. Goose Creek Scenic River Advisory Committee (04-23-09)	A-104
l. VA Department of Conservation and Recreation (04-15-09)	A-105
m. Town of Leesburg (05-13-09, 11-02-09)	A-108
2. Disclosure of Real Parties in Interest (11-20-09)	A-175
3. Applicant's Statement of Justification (08-20-09)	A-213
4. Applicant's Response to Referral Comments (11-20-09)	
a. Photo Simulations (11-23-09)	A-241
b. Water Flow Diagram (11-23-09)	
5. Applicant's Technical Studies	
a. Air Quality Study of Green Energy Partners/Stonewall Power Plant prepared by MACTEC Engineering and Consulting, Inc. (11-20-09)	A-297
b. Leesburg Generation Study (07-07-09)	A-323
c. The Economic and Fiscal Benefit of a Proposed Energy Generating Plan in Loudoun County, VA by Chmura Economics & Analytics (11-12-09)	
d. FAA Aeronautical Study (Determination of No Hazard to Air Navigation) (10-05-09)	A-335
6. Proffer Statement (08-20-09 as revised through 11-20-09)	A- 371
7. Applicant's Proposed Conditions of Approval (08-20-09 as revised through 11-20-09)	A-383
8. Rezoning Plat/SPEX Plat/Concept Plan & Illustrative Exhibit	Attached